STATISTICAL BRIEF

September 2010

Hospital Stays for Lung Cancer, 2008

In 2008, there were 34,471 hospitalizations citing a diagnosis of lung cancer – a rate of 141.7 stays per 100,000 population in Texas. About 25 percent of lung cancer-related hospitalizations (8,781 stays) were principally for lung cancer and totaled $486 million in hospital charges. In addition, there were 25,920 stays with lung cancer as a secondary diagnosis, resulting $1,123 million of total hospital charges.

Table 1 presents the general characteristics of hospital stays involving lung cancer compared to hospitalizations for all conditions (excluding newborns and maternal conditions). The mean length of hospital stay for lung cancer treatment was 8.0 days for a principal diagnosis and 6.8 days for a secondary diagnosis, both were longer than stays for all conditions combined (6.2 days). Compared to the typical hospital stay, hospitalizations for lung cancer care with a principal diagnosis were, on average, more expensive (mean charge $55,379 versus $37,936 per stay and $6,941 versus $6,121 per day). Although the mean charges per stay and per day with a secondary diagnosis of lung cancer were lower than the stay with a principal diagnosis of lung cancer, they were still slightly higher than the typical hospital stay. While males were less likely than females to be hospitalized for all conditions (0.80 ratio of male to female), males were hospitalized more frequently than females for lung cancer with a principal diagnosis (1.18 ratio of male to female) or with a secondary diagnosis (1.12 ratio of male to female). Patients hospitalized principally for lung cancer were less likely to be admitted through the emergency department (ED) than the average hospitalization (41.2 percent versus 52.0 percent). Patients with a secondary diagnosis of lung cancer were admitted through the ED even more often (55.7 percent). In-hospital deaths were substantially higher for stays involving lung cancer than the average hospitalization: 9.8 percent of stays principally for lung cancer and 8.5 percent of stays with lung cancer as a secondary diagnosis resulting in an in-hospital death – over 4 times and 3.5 times higher than the average hospital stay (2.4 percent).

Table 2 lists the top principal diagnoses for stays where lung cancer was present as any diagnosis. Thirteen of the top 20 diagnoses were cancer, respiratory disease, or circulatory disease. About 37 percent of all hospitalizations related to lung cancer had some form of cancer or cancer therapy as a principal diagnosis, including lung cancer (25.5 percent), secondary malignancies (8.4 percent), radiotherapy or chemotherapy (2.0 percent), and other cancers (1.2 percent) –

colon, head and neck, breast, bladder, and other forms. Respiratory diagnoses were also common principal reasons for hospital stays involving lung cancer. Pneumonia accounted for 8.2 percent of lung cancer-related stays, followed by chronic obstructive pulmonary disease (5.4 percent), respiratory failure (3.0 percent), pleurisy, pneumothorax, pulmonary collapse (1.5 percent), and pulmonary heart disease (1.2 percent). Circulatory diseases were also important principal diagnoses and included congestive heart failure, cardiac dysrhythmias, stroke, and acute myocardial infarction.

Table 3 compares the frequency of the 10 most common procedures performed during stays principally for lung cancer with the frequency of these procedures among hospitalization noting a secondary diagnosis of lung cancer. Over 40 percent of stays principally for lung cancer had a diagnostic bronchoscopy and biopsy of bronchus, and nearly 28 percent cited a lobectomy or pneumonectomy. In comparison, about 7 percent of stays with a secondary lung cancer diagnosis noted a diagnostic bronchoscopy and biopsy of bronchus, while less than 1 percent (0.8 percent) noted a lobectomy or pneumonectomy. However, other procedures directly related to the diagnosis or treatment of the lung cancer itself, as opposed to other diagnoses, were common in all lung cancer-related hospitalizations. These procedures included chest drainage, other vascular catheterization, cancer chemotherapy, and respiratory intubation and mechanical ventilation. Blood transfusion was the most common procedure performed during hospitalizations with a secondary diagnosis of lung cancer, accounting for nearly 20 percent of these stays. It was also common among stays principally for lung cancer (14.2 percent).

As shown in Table 1, the average age of patients hospitalized with a lung cancer diagnosis was 12 to 14 years old than the average hospitalized patients with all conditions. In fact, the rate of hospitalization for lung cancer increases sharply with age (Table1 and Figure 1). Patients 44 years and younger accounted for only 2.5 percent of stays principally for lung cancer (2.2 stays per 100,000 population) and 1.9 percent of stays with a secondary lung cancer diagnosis (4.8 stays per 100,000 population). Over 60 percent of lung cancer-related stays occurred among patients 65 years and older – a rate of 223.3 stays per 100,000 population for principal lung cancer and a rate of 741.3 stays per 100,000 population for lung cancer as a secondary diagnosis.

Analyses by expected primary payer showed a similar distribution for both principal and secondary lung cancer diagnoses (Figure 2). Medicare was the most common primary payer for hospitalizations involving lung cancer, accounting for 59.2 percent of stays principally for lung cancer and 69.0 percent of hospitalizations with a secondary diagnosis of lung cancer. Private insurance was the second most common primary payer for both principal and secondary stays, at 26.3 and 21.6 percent, respectively. The uninsured accounted for 6.7 percent of principal lung cancer stays and 3.6 percent of stays with a secondary diagnosis of lung cancer. Medicaid covered about 5 percent of lung cancer-related hospitalizations.

Table 1. Characteristics of hospitalizations related to lung cancer compared to hospitalizations for all conditions, 2008

	Hospital stays principally for lung cancer	Hospital stays with a secondary diagnosis of lung cancer	Hospital stays for all conditions*
Total number of hospitalizations	8,781	25,920	2,099,791
Mean length of stay (in days)	8.0	6.8	6.2
Mean charge per stay	$55,379	$43,342	$37,936
Mean charge per day	$6,941	$6,356	$6,121
Aggregate charges (in millions)	$486	$1,123	$79,658
Mean age (in years)	67.0	69.1	54.9
Percentage by age group:			
0-17 years	0.1%	0.1%	9.5%
18-44 years	2.4%	1.8%	19.7%
45-64 years	36.4%	29.3%	30.6%
65 years and older	61.2%	68.8%	40.2%
Ratio of male to female	1.18	1.12	0.80
Percentage admitted through the emergency department	41.2%	55.7%	52.0%
Percentage died in hospital	9.8%	8.5%	2.4%

* Stays for newborns and maternal conditions have been excluded.

Source: Texas Hospital Inpatient Discharge Public Use Data File (PUDF), 2008.

Table 2. Top 20 principal diagnoses among lung cancer-related hospitalizations, 2008

Rank	Principal diagnosis	Number of stays	Percentage of all lung cancer hospitalizations
1	Cancer of bronchus, lung	8,781	25.5%
2	Secondary malignancies	2,908	8.4%
3	Pneumonia	2,815	8.2%
4	Chronic obstructive pulmonary disease and bronchiectasis	1,853	5.4%
5	Septicemia (except in labor)	1,170	3.4%
6	Respiratory failure, insufficiency, arrest (adult)	1,049	3.0%
7	Fluid and electrolyte disorders	797	2.3%
8	Rehabilitation care, fitting of prostheses, and adjustment of devices	765	2.2%
9	Maintenance chemotherapy, radiotherapy	677	2.0%
10	Congestive heart failure, nonhypertensive	615	1.8%
11	Deficiency and other anemia	526	1.5%
12	Cardiac dysrhythmias	516	1.5%
13	Pleurisy, pneumothora, pulmonary collapse	514	1.5%
14	Complications of surgical procedures or medical care	500	1.5%
15	Other cancer diagnoses	419	1.2%
16	Pulmonary heart disease	414	1.2%
17	Diseases of white blood cells	402	1.2%
18	Acute cerebrovascular disease (stroke)	380	1.1%
19	Acute myocardial infarction (MI)	364	1.1%
20	Other nervous system disorders	354	1.0%

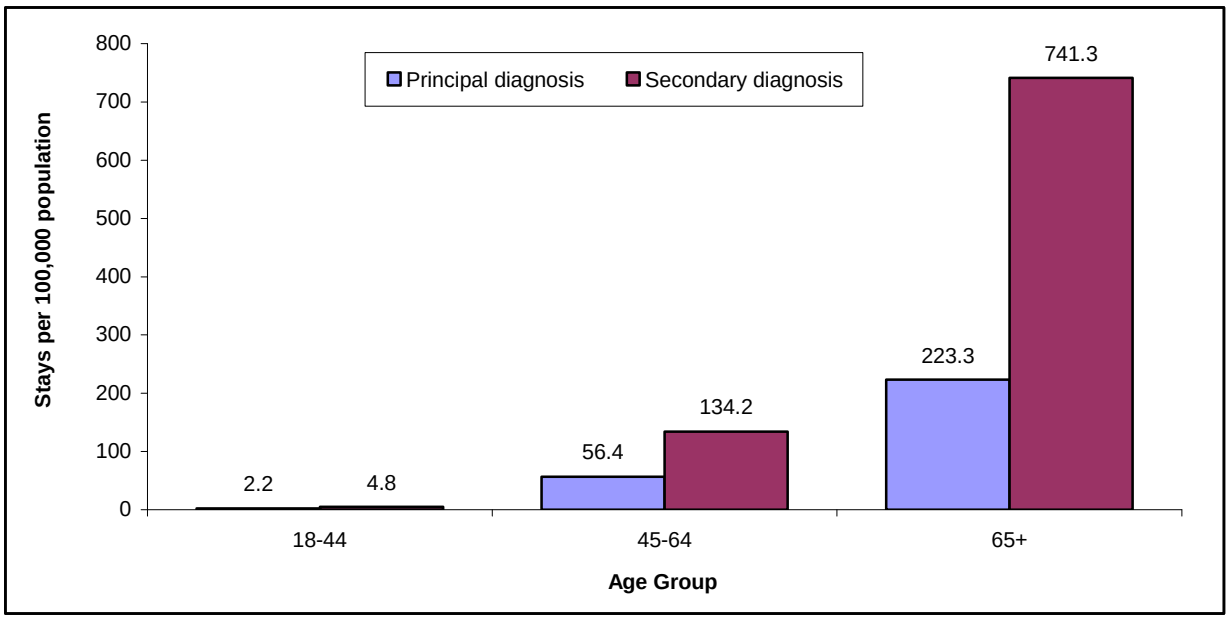
Source: Texas Hospital Inpatient Discharge Public Use Data File (PUDF), 2008.

Table 3. Top 10 all-listed procedures for principal lung cancer stays compared to stays with a secondary lung cancer diagnosis, 2008

All-listed procedures	Rank	Percentage of principal lung cancer stays (n=8,781)	Rank	Percentage of stays with a secondary diagnosis of lung cancer (n=25,920)
Diagnostic bronchoscopy and biopsy of bronchus	1	40.7%	5	7.1%
Lobectomy or pneumonectomy	2	27.8%	32	0.8%
Other therapeutic procedures, hemic and lymphatic system	3	19.1%	26	1.1%
Incision of pleura, thoracentesis, chest drainage	4	14.3%	4	7.6%
Blood transfusion	5	14.2%	1	19.6%
Other vascular catheterization, not heart	6	11.4%	2	9.9%
Cancer chemotherapy	7	7.8%	7	4.3%
Respiratory intubation and mechanical ventilation	8	7.6%	3	7.8%
Other non-OR therapeutic procedures on skin and breast	9	6.6%	11	2.2%
Other diagnostic procedures of respiratory tract and mediastinum	10	6.5%	27	1.0%

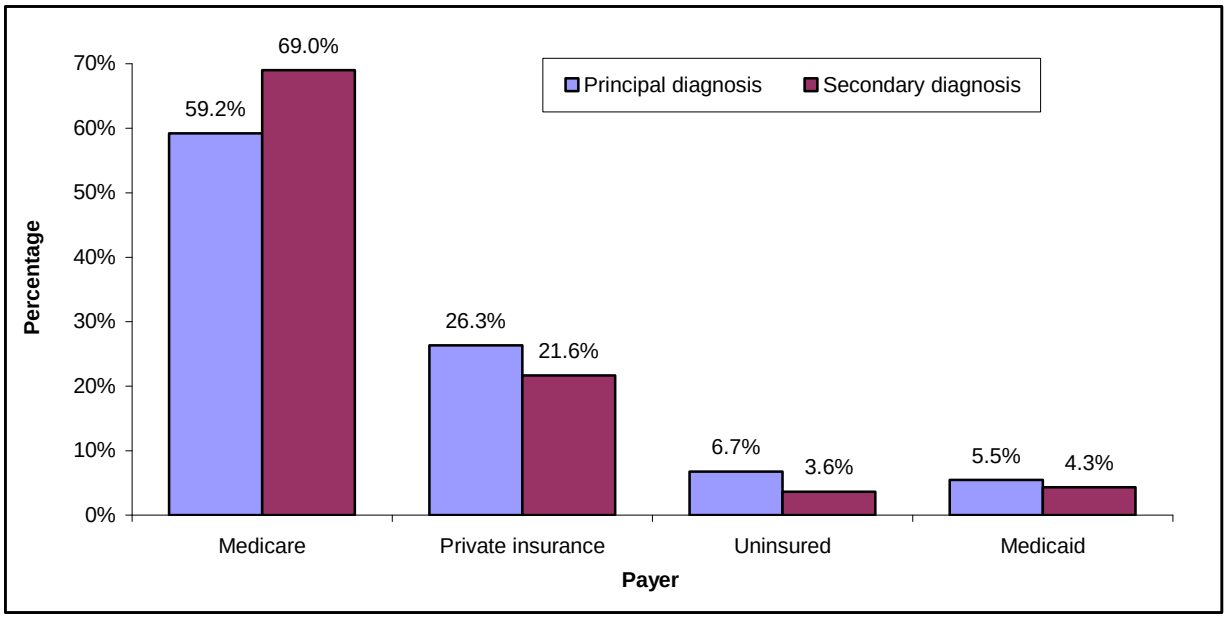
Source: Texas Hospital Inpatient Discharge Public Use Data File (PUDF), 2008.

Figure 1. Rate of lung cancer-related hospitalizations by age group, 2008



Source: Texas Hospital Inpatient Discharge Public Use Data File (PUDF), 2008.

Figure 2. Distribution of lung cancer-related hospitalizations by payer, 2008



Source: Texas Hospital Inpatient Discharge Public Use Data File (PUDF), 2008.